

=> fil reg

FILE 'REGISTRY' ENTERED AT 11:31:17 ON 26 APR 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 25 APR 2007 HIGHEST RN 932710-95-7
DICTIONARY FILE UPDATES: 25 APR 2007 HIGHEST RN 932710-95-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d his nofile

(FILE 'HOME' ENTERED AT 10:22:24 ON 26 APR 2007)

FILE 'HCAPLUS' ENTERED AT 10:22:34 ON 26 APR 2007

L1 1 SEA ABB=ON PLU=ON US2005164089/PN

FILE 'REGISTRY' ENTERED AT 10:23:10 ON 26 APR 2007

L2 10 SEA ABB=ON PLU=ON (1304-28-5/BI OR 1310-58-3/BI OR
1313-13-9/BI OR 1332-29-2/BI OR 17194-00-2/BI OR
513-77-9/BI OR 7440-39-3/BI OR 7440-66-6/BI OR 7727-43-7/
BI OR 7782-42-5/BI)
D SCA

L3 1 SEA ABB=ON PLU=ON 7727-43-7/RN
L4 1 SEA ABB=ON PLU=ON 17194-00-2/RN
L5 1 SEA ABB=ON PLU=ON 513-77-9/RN
L6 1 SEA ABB=ON PLU=ON 1304-28-5/RN
L7 1 SEA ABB=ON PLU=ON 7440-39-3/RN
L8 1 SEA ABB=ON PLU=ON 1313-13-9/RN
L9 1 SEA ABB=ON PLU=ON CARBON/CN
L10 1 SEA ABB=ON PLU=ON GRAPHITE/CN
L11 1 SEA ABB=ON PLU=ON 1332-29-2/RN
L12 1 SEA ABB=ON PLU=ON ZINC/CN
L13 1 SEA ABB=ON PLU=ON "POTASSIUM HYDROXIDE"/CN
L14 1 SEA ABB=ON PLU=ON "LITHIUM HYDROXIDE"/CN
L15 1 SEA ABB=ON PLU=ON "SODIUM HYDROXIDE"/CN
L16 1 SEA ABB=ON PLU=ON "CALCIUM HYDROXIDE"/CN
L17 1 SEA ABB=ON PLU=ON "MAGNESIUM HYDROXIDE"/CN
L18 1 SEA ABB=ON PLU=ON "AMMONIUM HYDROXIDE"/CN

FILE 'HCAPLUS' ENTERED AT 10:57:10 ON 26 APR 2007

L19 QUE ABB=ON PLU=ON POSITIVE?(A)ELECTROD## OR CATHOD##

L20	91	SEA ABB=ON	PLU=ON	(L3 OR (BARIUM OR BA) (A) (SULFATE OR SULPHATE)) (L) L19
L21	86	SEA ABB=ON	PLU=ON	(L4 OR (BARIUM OR BA) (A) HYDROXIDE) (L) L19
L22	217	SEA ABB=ON	PLU=ON	(L5 OR (BARIUM OR BA) (A) CARBONATE) (L) L19
L23	1440	SEA ABB=ON	PLU=ON	(L6 OR (BARIUM OR BA) (A) OXIDE OR BAO) (L) L19
L24	865	SEA ABB=ON	PLU=ON	L7/D (L) SALT
L25	28739	SEA ABB=ON	PLU=ON	(L7/D OR BARIUM OR BA) (L) SALT
L26	353	SEA ABB=ON	PLU=ON	L25 (L) L19
L27	2441	SEA ABB=ON	PLU=ON	L3 (L) MOA/RL
L28	233	SEA ABB=ON	PLU=ON	L4 (L) MOA/RL
L29	449	SEA ABB=ON	PLU=ON	L5 (L) MOA/RL
L30	1497	SEA ABB=ON	PLU=ON	L6 (L) MOA/RL
L31	19	SEA ABB=ON	PLU=ON	L20 AND L27
L32	22	SEA ABB=ON	PLU=ON	L21 AND L28
L33	18	SEA ABB=ON	PLU=ON	L22 AND L29
L34	49	SEA ABB=ON	PLU=ON	L23 AND L30
L35		QUE ABB=ON	PLU=ON	MODIF? OR ADDITIVE? OR ADJUVANT? OR AUXILIAR?
L36	83013	SEA ABB=ON	PLU=ON	L8 OR MNO2 OR (MANGANESE OR MN) (A) (OXIDE OR DIOXIDE)
L37	147	SEA ABB=ON	PLU=ON	((L20 OR L21 OR L22 OR L23) OR L26) AND L35
L38	17	SEA ABB=ON	PLU=ON	(L37 OR (L31 OR L32 OR L33 OR L34)) AND L36
L39	436879	SEA ABB=ON	PLU=ON	(L9 OR L10 OR L11)
L40		QUE ABB=ON	PLU=ON	CARBON OR GRAPHITE OR (TIN OR SN) (A) OXIDE
L41		QUE ABB=ON	PLU=ON	METAL? (2A) OXIDE
L42		QUE ABB=ON	PLU=ON	CONDUCT? (2A) (MATERIAL? OR SUBSTANCE?)
L43	5	SEA ABB=ON	PLU=ON	L38 AND (L39 OR L40 OR L41 OR L42)
L44		QUE ABB=ON	PLU=ON	(POTASSIUM OR K OR LITHIUM OR LI OR SODIUM OR NA OR CALCIUM OR CA OR MAGNESIUM OR MG OR AMMONIUM OR NH4) (A) HYDROXIDE
L45		QUE ABB=ON	PLU=ON	KOH OR LIOH OR NAOH OR CAO H OR MGOH OR NH4OH
L46	165898	SEA ABB=ON	PLU=ON	(L13 OR L14 OR L15 OR L16 OR L17 OR L18)
L47	2	SEA ABB=ON	PLU=ON	L43 AND (L44 OR L45 OR L46)
L48		QUE ABB=ON	PLU=ON	BATTERY OR (ELECTROCHEM? OR ELECTROLY? OR GALVAN? OR WET OR DRY OR PRIMARY OR SECONDARY) (2A) (CELL OR CELLS)
L49	15721	SEA ABB=ON	PLU=ON	(L12 OR ZINC OR ZN) (L) L48
L50	2	SEA ABB=ON	PLU=ON	L47 AND L49
L51	1	SEA ABB=ON	PLU=ON	(L38 OR L43 OR L47 OR L50) AND (TIN OR SN) (A) OXIDE
L52	1	SEA ABB=ON	PLU=ON	(L47 OR L50) NOT L51
L53	3	SEA ABB=ON	PLU=ON	L43 NOT (L51 OR L52)
L54	12	SEA ABB=ON	PLU=ON	L38 NOT (L51 OR L52 OR L53)

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 11:31:19 ON 26 APR 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 26 Apr 2007 VOL 146 ISS 18
FILE LAST UPDATED: 25 Apr 2007 (20070425/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l51 ibib abs hitstr hitind

L51 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:672712 HCAPLUS Full-text
DOCUMENT NUMBER: 143:156366
TITLE: Cathode material for battery
INVENTOR(S): Iltchev, Nikolay K.; Mao, Ou; Eylem, Cahit;
Cintra, George; Pinnell, Leslie J.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005164089	A1	20050728	US 2004-765569	20040128
WO 2005074059	A1	20050811	WO 2005-US2512	20050126
WO 2005074059	A8	20051006		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1709703	A1	20061011	EP 2005-712111	20050126
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,			

PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
 CN 1914752 A 20070214 CN 2005-80003474

200501
 26

PRIORITY APPLN. INFO.:

US 2004-765569

A1

200401
 28

WO 2005-US2512

W

200501
 26

AB The **cathode** of an alkaline battery can include an elec. conductive **additive** to increase the **cathode** efficiency. The **additive** can include a **barium salt** and an elec. **conductive material**. The elec. **conductive material** can be coated on a surface of the **barium salt**. The elec. **conductive material** can be an elec. conductive **metal oxide**.

IT 1310-58-3, Potassium hydroxide, uses
 1313-13-9, Manganese dioxide, uses
 7440-66-6, Zinc, uses

RL: DEV (Device component use); USES (Uses)
 (cathode material for **battery**)

RN 1310-58-3 HCAPLUS

CN Potassium hydroxide (K(OH)) (CA INDEX NAME)

K-OH

RN 1313-13-9 HCAPLUS

CN Manganese oxide (MnO₂) (CA INDEX NAME)

O=Mn=O

RN 7440-66-6 HCAPLUS

CN Zinc (CA INDEX NAME)

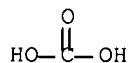
Zn

IT 513-77-9, Barium carbonate
 1304-28-5, Barium oxide, uses
 1332-29-2, Tin oxide 7440-39-3D
 , Barium, salt 7727-43-7,
 Barium sulfate 7782-42-5,
 Graphite, uses 17194-00-2, Barium
 hydroxide

RL: MOA (Modifier or additive use); USES (Uses)
 (cathode material for battery)

RN 513-77-9 HCAPLUS

CN Carbonic acid, barium salt (1:1) (CA INDEX NAME)



RN 1304-28-5 HCAPLUS
CN Barium oxide (BaO) (CA INDEX NAME)



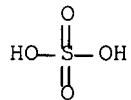
RN 1332-29-2 HCAPLUS
CN Tin oxide (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7440-39-3 HCAPLUS
CN Barium (CA INDEX NAME)



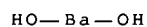
RN 7727-43-7 HCAPLUS
CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)



RN 17194-00-2 HCAPLUS
CN Barium hydroxide (Ba(OH)₂) (9CI) (CA INDEX NAME)



IC ICM H01M004-62
ICS H01M004-50; H01M004-42

INCL 429232000; 429224000; 429229000; 029623100
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 IT Coating **materials**
 (elec. **conductive**; cathode **material** for
 battery)
 IT 1310-58-3, Potassium hydroxide, uses
 1313-13-9, Manganese dioxide, uses
 7440-66-6, Zinc, uses
 RL: DEV (Device component use); USES (Uses)
 (cathode material for **battery**)
 IT 513-77-9, Barium carbonate
 1304-28-5, Barium oxide, uses
 1332-29-2, Tin oxide 7440-39-3D
 , Barium, salt 7727-43-7,
 Barium sulfate 7782-42-5,
 Graphite, uses 17194-00-2, Barium
 hydroxide
 RL: MOA (Modifier or additive use); USES (Uses)
 (cathode material for battery)

=> d 152 ibib abs hitstr hitind

L52 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:556567 HCAPLUS Full-text

DOCUMENT NUMBER: 145:30921

TITLE: Cathodes for **zinc manganese**
 dioxide batteries having
 barium **additives**

INVENTOR(S): Taucher, Waltraud; Kordesch, Karl; Daniel-Ivad,
 Josef

PATENT ASSIGNEE(S): Austria

SOURCE: Can. Pat. Appl., 22 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
CA 2126069	A1	19930624	CA 1992-2126069	199212 21
CA 2126069	C	20060606		
WO 9312551	A1	19930624	WO 1992-CA553	199212 21

W: AU, BB, BG, BR, CA, CS, FI, JP, KP, KR, LK, MG, MN, MW, NO,
 PL, RO, RU, SD

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT,
 SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG

PRIORITY APPLN. INFO.: HU 1991-4047

A

199112
19

WO 1992-CA553

W

199212
21

AB A cathode structure for alkaline manganese dioxide-zinc primary or rechargeable cells with improved capacity that comprise manganese dioxide active material, a conductive powder and an additive material uniformly mixed and pressed to form a porous body, wherein the additive is a barium compound which is at least 3% mass of the solid components. The preferred additive is barium oxide , barium hydroxide or barium sulfate. The invention relates also to alkaline manganese dioxide-zinc primary or rechargeable cells, wherein the cathode structure is employed.

IT 1310-58-3, Potassium hydroxide, uses
 1313-13-9, Manganese dioxide, uses
 7440-66-6, Zinc, uses
 RL: DEV (Device component use); USES (Uses)
 (cathodes for zinc manganese dioxide
 batteries having barium additives)

RN 1310-58-3 HCAPLUS
 CN Potassium hydroxide (K(OH)) (CA INDEX NAME)

K-OH

RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO₂) (CA INDEX NAME)

$\text{O}=\text{Mn}=\text{O}$

RN 7440-66-6 HCAPLUS
 CN Zinc (CA INDEX NAME)

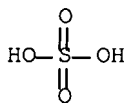
Zn

IT 1304-28-5, Barium oxide, uses
 7727-43-7, Barium sulfate
 17194-00-2, Barium hydroxide
 RL: MOA (Modifier or additive use); USES (Uses)
 (cathodes for zinc manganese
 dioxide batteries having barium
 additives)

RN 1304-28-5 HCAPLUS
 CN Barium oxide (BaO) (CA INDEX NAME)

$\text{Ba}=\text{O}$

RN 7727-43-7 HCAPLUS
 CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



● Ba

RN 17194-00-2 HCAPLUS
CN Barium hydroxide (Ba(OH)2) (9CI) (CA INDEX NAME)

HO—Ba—OH

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST cathode **zinc manganese dioxide**
battery barium additive
IT **Battery** cathodes
Primary **batteries**
Secondary **batteries**
(cathodes for **zinc manganese dioxide**
batteries having barium additives)
IT 1310-58-3, Potassium hydroxide, uses
1313-13-9, Manganese dioxide, uses
7440-66-6, Zinc, uses
RL: DEV (Device component use); USES (Uses)
(cathodes for **zinc manganese dioxide**
batteries having barium additives)
IT 1304-28-5, Barium oxide, uses
7440-39-3D, Barium, compound 7727-43-7, Barium
sulfate 17194-00-2, Barium
hydroxide
RL: MOA (Modifier or additive use); USES (Uses)
(cathodes for **zinc manganese**
dioxide batteries having barium
additives)

=> d 153 ibib abs hitstr hitind 1-3

L53 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:856175 HCAPLUS Full-text
DOCUMENT NUMBER: 139:352680
TITLE: Positive electrode for nonaqueous electrolyte
battery, process for producing the same and
nonaqueous electrolyte battery
INVENTOR(S): Otsuki, Masashi; Eguchi, Shinichi; Kanno,
Hiroshi
PATENT ASSIGNEE(S): Bridgestone Corporation, Japan
SOURCE: PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

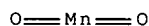
PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
WO 2003090295	A1	20031030	WO 2003-JP4038	200303 28
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003236308	A1	20031103	AU 2003-236308	200303 28
EP 1498965	A1	20050119	EP 2003-746887	200303 28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005153207	A1	20050714	US 2003-511034	200303 28
CN 1647299	A	20050727	CN 2003-808623	200303 28
PRIORITY APPLN. INFO.:			JP 2002-116990	A 200204 19
			JP 2002-117151	A 200204 19
			WO 2003-JP4038	W 200303 28

AB A **pos. electrode** for nonaq. electrolyte battery, comprising particles of a **pos. electrode** active substance and, dispersed therebetween, at least one alkaline earth **metal oxide** selected from the group consisting of magnesium oxide, calcium oxide and **barium oxide**. The electrode fabrication process includes steps of dispersing **MnO₂** particles in an aqueous solution of alkaline earth metal hydroxide, drying the dispersion, heating at 290-310° to convert the hydroxide to oxide, pulverizing the mixture and compacting the powder. Primary batteries having the said electrodes are also disclosed. The nonaq. electrolyte for the primary batteries preferably contains a phosphazene derivative This **pos. electrode** enables enhancing the discharge capacity or charge-discharge capacity of nonaq. electrolyte battery immediately after production thereof and after storage at high temperature

IT 1313-13-9, **Manganese dioxide**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (alkaline earth oxide **additives** for nonaq. electrolyte

primary battery cathode active substance)
 RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO₂) (CA INDEX NAME)



IT 1304-28-5, Barium oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (primary battery cathode additive)
 RN 1304-28-5 HCAPLUS
 CN Barium oxide (BaO) (CA INDEX NAME)



IC ICM H01M004-06
 ICS H01M004-50; H01M006-16; H01M004-02; H01M004-58; H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST nonaq electrolyte primary battery cathode **additive** alk
 earth oxide
 IT Battery cathodes
 (alkaline earth oxide type **additives** for **manganese**
dioxides in)
 IT Primary batteries
 (lithium; **additives** for cathodes and nonaq.
 electrolytes for)
 IT Battery electrolytes
 (nonaq.; phosphazene derivative as **additives** for)
 IT 33027-66-6 55593-38-9 593094-52-1 607744-75-2
 RL: MOA (Modifier or additive use); USES (Uses)
 (**additive** for nonaq. electrolyte for primary batteries)
 IT 1313-13-9, Manganese dioxide, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkaline earth oxide **additives** for nonaq. electrolyte
 primary battery cathode active substance)
 IT 1305-78-8, Calcium oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonaq electrolyte primary battery cathode **additive**)
 IT 1304-28-5, Barium oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (primary battery cathode **additive**)
 IT 1309-48-4, Magnesium oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (primary battery cathode **additive** substance)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L53 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:363821 HCAPLUS Full-text
 DOCUMENT NUMBER: 132:350271
 TITLE: Cathodes for secondary lithium battery, their
 manufacture, and their usage
 INVENTOR(S): Hamamoto, Shunichi; Ueki, Akira; Miyoshi,
 Kazuhiro; Yamada, Tetsuo

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000149925	A	20000530	JP 1998-323322	19981113
JP 2974213	B2	19991110	JP 1998-323322	19981113

PRIORITY APPLN. INFO.: 19981113

AB The title cathode consisting of cubic Li **Mn oxide** has (1) F concentration-gradient layer, in which the depth of 10% difference of F concentration between the surface and the inner is 0.5-80 nm, (2) atomic ratio of F/Mn 0.002-0.05, and (3) lattice constant ≤ 0.82405 nm. The Li **Mn oxide** may contain B, Mg, Al, P, Ca, Ti, V, Cr, Fe, Co, Ni, Cu, Zn, Ba, Ga, and/or Ta. The title process contains firing mixts. containing Li compds., Mn, compds., and LiF at 500-800°, and washing unreacted LiF out with water. A secondary Li battery using the cathodes is also claimed.

IT 1304-28-5, Barium oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**
)

RN 1304-28-5 HCAPLUS

CN Barium oxide (BaO) (CA INDEX NAME)

Ba==O

IC ICM H01M004-58

ICS C01G045-00; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST lithium **manganese oxide** battery cathode

IT Secondary batteries

(lithium; washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**)

IT Battery cathodes

(washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**)

IT 12057-17-9P, Lithium **manganese oxide** (LiMn2O4)

RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); PREP (Preparation); USES (Uses)

(washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**)

IT 1303-86-2, Boron oxide, uses 1304-28-5, Barium
oxide, uses 1309-48-4, Magnesia, uses 1313-99-1, Nickel

oxide (NiO), uses 1314-13-2, Zinc oxide, uses 1314-56-3,
 Phosphorus oxide (P2O5), uses 1314-61-0, Tantalum oxide
 1332-37-2, Iron oxide, uses 1344-28-1, Alumina, uses 1344-70-3,
 Copper oxide 11099-11-9, Vanadium oxide 11104-61-3, Cobalt oxide
 11118-57-3, Chromium oxide 12024-21-4, Gallium oxide 12795-06-1,
Carbon oxide 13463-67-7, Titania, uses

RL: MOA (Modifier or additive use); USES (Uses)

(washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**
)

IT 7789-24-4, Lithium fluoride, uses

RL: MOA (Modifier or additive use); REM (Removal or disposal); PROC
 (Process); USES (Uses)

(washing unreacted LiF out by water in manufacture of F
 concentration-gradient layer-containing Li **Mn oxide**
 (containing **metal**) for secondary Li battery **cathode**)

L53 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:303360 HCAPLUS Full-text

DOCUMENT NUMBER: 120:303360

TITLE: **Manganese dioxide cathode**

for secondary batteries, and batteries
 containing this cathode

INVENTOR(S): Tomantschger, Klaus; Michalowski, Christopher

PATENT ASSIGNEE(S): Battery Technologies Inc., Can.

SOURCE: U.S., 19 pp. Cont.-in-part of U.S. 5,204,195.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 5300371	A	19940405	US 1993-49405	199304 20
US 5108852	A	19920428	US 1990-497908	199003 23
US 5204195	A	19930420	US 1992-824208	199201 22
US 5336571	A	19940809	US 1993-42789	199304 06
US 5346783	A	19940913	US 1993-42786	199304 06
CN 1109641	A	19951004	CN 1994-101682	199401 31
CN 1073293	B	20011017		
CA 2157174	A1	19941027	CA 1994-2157174	199402 28
CA 2157174	C	19990316		
WO 9424718	A1	19941027	WO 1994-CA112	

199402

28

W: AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KP, KR, KZ, LK, LV,
 MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, UZ, VN

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT,
 SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9461522 A 19941108 AU 1994-61522

199402

28

AU 676276 B2 19970306
 BR 9406476 A 19960123 BR 1994-6476

199402

28

EP 695465 A1 19960207 EP 1994-908227

199402

28

EP 695465 B1 20000105
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL,
 PT, SE

JP 08508847 T 19960917 JP 1994-522568

199402

28

JP 3494378 B2 20040209
 HU 77304 A2 19980330 HU 1995-2986

199402

28

RU 2126193 C1 19990210 RU 1995-119852

199402

28

AT 188577 T 20000115 AT 1994-908227

199402

28

ES 2145130 T3 20000701 ES 1994-908227

199402

28

FI 9504995 A 19951019 FI 1995-4995

199510

19

PRIORITY APPLN. INFO.:

US 1990-497908

A3

199003

23

US 1992-824208

A2

199201

22

US 1993-49405

A

199304

20

WO 1994-CA112

W

199402

28

AB The cathode is essentially unconstrained, i.e., no cage is used in the battery to confine the cathode. During discharge of the battery, the cathode may be inclined to swell, and during the charge cycle it may be inclined to contract or decrease its dimensions. However, the cathode is dimensioned so as to substantially fill the entire space allotted for it within the battery, while allowing for a slight accommodation for vertical or longitudinal expansion or growth in bobbin cells.

The cathode may include **additives** such as C or **graphite** to increase its elec. conductivity, hydrophobic agents such as PTFE, polyethylene, or polypropylene to enhance its H permeability and recombination rates, and similar hydrophobic agents as well as hydrophilic **additives** to serve as lubricants and to decrease tool wear during the manufacturing processes. The discharge capacity of the cathode may be established at .apprx.60-120% of the theor. 1-electron discharge capacity of the MnO₂ cathode.

IT 7440-44-0
 RL: USES (Uses)
 (carbon fibers, cathodes containing metal-plated,
 manganese dioxide high-performance, for
 batteries)
 RN 7440-44-0 HCAPLUS
 CN Carbon (CA INDEX NAME)

c

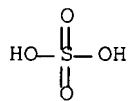
IT 7782-42-5
 RL: USES (Uses)
 (carbon fibers, graphite, cathodes containing
 metal-plated, manganese dioxide
 high-performance, for batteries)
 RN 7782-42-5 HCAPLUS
 CN Graphite (CA INDEX NAME)

c

IT 1304-28-5, Barium oxide, uses
 7727-43-7, Barium sulfate
 7782-42-5, Graphite, uses 17194-00-2,
 Barium hydroxide
 RL: USES (Uses)
 (cathodes containing, manganese dioxide
 high-performance, for batteries)
 RN 1304-28-5 HCAPLUS
 CN Barium oxide (BaO) (CA INDEX NAME)

Ba=O

RN 7727-43-7 HCAPLUS
 CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



● Ba

RN 7782-42-5 HCAPLUS
 CN Graphite (CA INDEX NAME)

C

RN 17194-00-2 HCAPLUS
 CN Barium hydroxide (Ba(OH)2) (9CI) (CA INDEX NAME)

HO—Ba—OH

IT 1313-13-9, **Manganese dioxide**, uses
 RL: USES (Uses)
 (cathodes, high-performance, for batteries)
 RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO2) (CA INDEX NAME)

O==Mn==O

IC ICM H01M002-18
 ICS H01M004-62
 INCL 429060000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST **manganese dioxide** battery cathode
 IT **Carbon** fibers, uses
 RL: USES (Uses)
 (cathodes containing metal-plated, **manganese dioxide** high-performance, for batteries)
 IT **Carbon** black, uses
 RL: USES (Uses)
 (cathodes containing, **manganese dioxide** high-performance, for batteries)
 IT Batteries, secondary
 (**manganese dioxide**-zinc, high-performance)
 IT Cathodes
 (battery, **manganese dioxide**, high-performance)
 IT Metallic fibers
 RL: USES (Uses)
 (copper, cathodes containing metal-plated, **manganese dioxide** high-performance, for batteries)
 IT **Carbon** fibers, uses
 RL: USES (Uses)
 (**graphite**, cathodes containing metal-plated, **manganese dioxide** high-performance, for batteries)
 IT 7440-44-0
 RL: USES (Uses)
 (**carbon** fibers, cathodes containing metal-plated, **manganese dioxide** high-performance, for

- batteries)
- IT 7440-44-0 7782-42-5
 RL: USES (Uses)
 (carbon fibers, graphite, cathodes containing metal-plated, manganese dioxide high-performance, for batteries)
- IT 7440-02-0, Nickel, uses
 RL: USES (Uses)
 (cathodes containing carbon or graphite fibers plated with, manganese dioxide high-performance, for batteries)
- IT 1304-28-5, Barium oxide, uses
 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-22-4D, Silver, salts 7727-43-7, Barium sulfate 7782-42-5, Graphite, uses 9002-84-0, PTFE 9002-88-4, Polyethylene 9003-07-0, Polypropylene 17194-00-2, Barium hydroxide 20667-12-3, Silver oxide (Ag₂O)
 RL: USES (Uses)
 (cathodes containing, manganese dioxide high-performance, for batteries)
- IT 1313-13-9, Manganese dioxide, uses
 RL: USES (Uses)
 (cathodes, high-performance, for batteries)
- IT 7440-50-8, Copper, uses
 RL: USES (Uses)
 (fibers, cathodes containing metal-plated, manganese dioxide high-performance, for batteries)

=> d l54 ibib abs hitstr hitind 1-12

L54 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:176302 HCAPLUS Full-text
 DOCUMENT NUMBER: 145:148938
 TITLE: Development of flat plate rechargeable alkaline manganese dioxide-zinc cells
 AUTHOR(S): Stani, Andreas; Taucher-Mautner, Waltraud; Kordesch, Karl; Daniel-Ivad, Josef
 CORPORATE SOURCE: Institute for Chemistry and Technology of Inorganic Materials, Graz University of Technology, Graz, A-8010, Austria
 SOURCE: Journal of Power Sources (2006), 193(2), 405-412
 CODEN: JPSODZ; ISSN: 0378-7753
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB This paper was focused on the development of prototypes for flat plate RAM (rechargeable alkaline manganese dioxide) batteries. In contrast to cathodes used in cylindrical RAM batteries, the mech. stability is a significant issue for the preparation of flat-plate cathodes. Therefore, the choice of an appropriate binder, e.g. Oppanol, is very important. In this work, an improved preparation process of flat-plate RAM cathodes was developed by investigating the single steps of the preparation method. It was further demonstrated that the most critical factor of zinc electrode performance was the electrolyte content of the anode gel. The best overall battery performance was achieved at 40% zinc amount and a Zn/ZnO ratio of 5.0, in combination with an electrolyte content of 50.5%. In order to stabilize the γ -structure of manganese dioxide and to enhance rechargeability, the addition of barium compds. was also studied. Battery cycling has shown that flat-plate RAM batteries with BaSO₄-modified cathodes outperformed control batteries by

24%, mainly because of the minimized fade of discharge capacity. Moreover, the admixt. of barium manganate to the **cathode** yielded more than 15% capacity improvement after 25 cycles, compared to the **barium sulfate** additive.

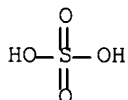
IT 7727-43-7, **Barium sulfate**

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(development of flat-plate rechargeable alkaline **manganese dioxide**-zinc batteries with **cathode** modified by)

RN 7727-43-7 HCAPLUS

CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



● Ba

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST zinc **manganese dioxide** alk battery development

IT Isobutylene rubber

RL: DEV (Device component use); USES (Uses)

(development of flat-plate rechargeable alkaline **manganese dioxide**-zinc batteries with cathode binder of)

IT Secondary batteries

(zinc-**manganese dioxide**; development of flat-plate rechargeable alkaline **manganese dioxide** -zinc batteries)

IT 7727-43-7, **Barium sulfate** 12231-83-3,

Barium manganate [Ba₃(MnO₄)₂] 129107-08-0, Barium manganese hydroxide oxide (Ba₅Mn₃(OH)O₁₂)

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(development of flat-plate rechargeable alkaline **manganese dioxide**-zinc batteries with **cathode** modified by)

IT 9003-27-4

RL: DEV (Device component use); USES (Uses)

(isobutylene rubber; development of flat-plate rechargeable alkaline **manganese dioxide**-zinc batteries with cathode binder of)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:697981 HCAPLUS Full-text

DOCUMENT NUMBER: 131:312428

TITLE: Cathode active mass for secondary lithium batteries and its manufacture

INVENTOR(S): Sakurai, Takeshi; Sugihara, Tadashi

PATENT ASSIGNEE(S): Mitsubishi Materials Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11302018	A	19991102	JP 1998-114514	19980424

PRIORITY APPLN. INFO.: JP 1998-114514

19980424

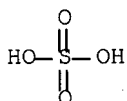
AB The cathode active mass contains 0.005-5% Ba compound and balance $\text{Li}_x\text{A}_y\text{MnO}_2$, where A = H, Na, K, Mg, Ca, Sr, Ti, V, Cr, Fe, Ni, Co, and/or Al; $0 < x < 1.5$; $0 < y < 1$, and $2 < z < 3$. The active mass is prepared by adding H_2O_2 to a 0.01-0.8M aqueous MnSO_4 solution at 10-80° under stirring; adding aqueous NH_3 to the solution; diluting the supernatant with an equal volume of water; adding aqueous BaCl_2 to the solution to precipitate BaSO_4 containing MnOOH ; filtering and drying the precipitate; adding oxide, hydroxide, chloride, and/or acetate of A to the precipitate; adding LiOH to the precipitate mixture at a Li/Mn ratio = 30-60; reacting the mixture under hydrothermal conditions at 140-300° for 2-30 h, washing the reaction product to $\text{pH} \leq 10$, and drying.

IT 7727-43-7, Barium sulfate

RL: MOA (Modifier or additive use); USES (Uses)
 (compsn. and manufacture of barium sulfate containing lithium manganese oxide cathode active mass for secondary lithium batteries)

RN 7727-43-7, HCAPLUS

CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



● Ba

IC ICM C01G045-00

ICS H01M004-02; H01M004-04; H01M004-58; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST battery cathode lithium manganese oxide

barium sulfate manuf

IT Battery cathodes

(compsn. and manufacture of barium sulfate containing lithium manganese oxide cathode active mass for secondary lithium batteries)

IT 7727-43-7, Barium sulfate 207990-23-6,

Lithium magnesium manganese oxide

($\text{Li}_0.9\text{Mg}_0.1\text{MnO}_2$) 207990-26-9, Calcium lithium manganese

oxide ($\text{Ca}_0.1\text{Li}_0.9\text{MnO}_2$) 247918-43-0, Iron lithium

manganese oxide ($\text{Fe}_0.1\text{Li}_1.1\text{MnO}_2.2$) 247918-45-2,

Lithium manganese nickel oxide ($\text{Li}_1.1\text{MnNi}_0.1\text{O}_2.2$) 247918-46-3,

Cobalt lithium manganese oxide

($\text{Co}_0.1\text{Li}_1.1\text{MnO}_2.2$) 247918-47-4, Aluminum lithium manganese

oxide (Al_{0.1}Li_{1.08}MnO_{2.2}) 247918-48-5, Chromium lithium
 manganese oxide (Cr_{0.08}Li_{1.08}MnO_{2.16})
 247918-49-6 247918-51-0, Lithium manganese strontium oxide
 (Li_{0.93}MnSr_{0.07}O₂) 247918-52-1, Lithium manganese sodium oxide
 (Li_{0.9}MnNa_{0.1}O₂) 247918-54-3, Lithium manganese potassium oxide
 (Li_{0.92}MnK_{0.08}O₂) 247918-56-5, Lithium manganese vanadium oxide
 (Li_{1.08}MnV_{0.08}O_{2.16}) 247918-57-6 247918-59-8, Lithium manganese
 hydroxide oxide (Li_{0.9}Mn(OH)_{0.1}O_{1.9}) 247918-61-2, Lithium
 manganese titanium oxide (Li_{1.08}MnTi_{0.08}O_{2.16})
 RL: MOA (Modifier or additive use); USES (Uses)
 (comps. and manufacture of barium sulfate containing
 lithium manganese oxide cathode
 active mass for secondary lithium batteries)

L54 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:557138 HCAPLUS Full-text
 DOCUMENT NUMBER: 131:172672
 TITLE: Nickel cathodes for secondary alkaline batteries
 and their manufacture
 INVENTOR(S): Hayashi, Satoshi
 PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan;
 Toyota Motor Corp.
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

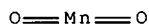
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11238508	A	19990831	JP 1998-40708	199802 23
US 6225004	B1	20010501	US 1999-253599	199902 22
PRIORITY APPLN. INFO.:			JP 1998-40708	A 199802 23

AB The cathodes contain Ni(OH)₂ powder and a multi-component additive containing Co(OH)₂, where the non-Co(OH)₂ components in the additive are encapsulate by Co(OH)₂. The non-Co oxide components are selected from Co, Ni, and oxides, hydroxides, and salts of Co, Ni, Mn, Zn, Ca, Mg, Sr, Ba, Y, Yb, Er, In, Sb, and Be.

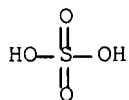
IT 1313-13-9, Manganese dioxide, uses
 7727-43-7, Barium sulfate
 17194-00-2, Barium hydroxide

RL: MOA (Modifier or additive use); PEP (Physical,
 engineering or chemical process); PROC (Process); USES (Uses)
 (comps. and manufacture of nickel hydroxide cathodes containing
 cobalt hydroxide encapsulated multicomponent additives
 for alkaline batteries)

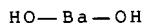
RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO₂) (CA INDEX NAME)



RN 7727-43-7 HCAPLUS
 CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



RN 17194-00-2 HCAPLUS
 CN Barium hydroxide (Ba(OH)₂) (9CI) (CA INDEX NAME)



IC ICM H01M004-32
 ICS H01M004-62
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST nickel hydroxide cathode cobalt hydroxide encapsulation
additive; battery nickel hydroxide cathode encapsulated
additive
 IT Battery cathodes
 (compsn. and manufacture of nickel hydroxide cathodes containing cobalt
 hydroxide encapsulated multicomponent **additives** for
 alkaline batteries)
 IT 12054-48-7, Nickel hydroxide [Ni(OH)₂]
 RL: DEV (Device component use); PEP (Physical, engineering or
 chemical process); PROC (Process); USES (Uses)
 (compsn. and manufacture of nickel hydroxide cathodes containing cobalt
 hydroxide encapsulated multicomponent **additives** for
 alkaline batteries)
 IT 1304-56-9, Beryllium oxide, uses 1305-62-0, Calcium hydroxide,
 uses 1305-78-8, Calcium oxide, uses 1307-96-6, Cobalt oxide
 (CoO), uses 1308-96-9, Europium oxide 1309-42-8, Magnesium
 hydroxide 1309-48-4, Magnesia, uses 1309-64-4, Antimony oxide,
 uses 1312-43-2, Indium oxide **1313-13-9**,
Manganese dioxide, uses 1313-99-1, Nickel oxide
 (NiO), uses 1314-13-2, Zinc oxide, uses 1314-36-9, Yttria, uses
 1314-37-0, Ytterbium oxide 7440-02-0, Nickel, uses 7440-48-4,
 Cobalt, uses 7487-88-9, Magnesium sulfate, uses **7727-43-7**
, Barium sulfate 7778-18-9, Calcium sulfate
 7789-75-5, Calcium fluoride, uses 13327-32-7, Beryllium hydroxide
 16469-22-0, Yttrium hydroxide **17194-00-2**, **Barium**
hydroxide 18480-07-4, Strontium hydroxide 20427-58-1,
 Zinc hydroxide 21041-93-0, Cobalt hydroxide [Co(OH)₂]
 RL: MOA (Modifier or additive use); PEP (Physical,
 engineering or chemical process); PROC (Process); USES (Uses)
 (compsn. and manufacture of nickel hydroxide **cathodes** containing
 cobalt hydroxide encapsulated multicomponent **additives**)

for alkaline batteries)

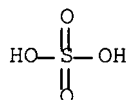
L54 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:35041 HCAPLUS Full-text
 DOCUMENT NUMBER: 130:84053
 TITLE: **Additives** for secondary alkaline
manganese dioxide batteries to
 increase cumulative discharge capacity and cycle
 life of batteries
 INVENTOR(S): Daniel-Ivad, Josef; Daniel-Ivad, Elfriede; Book,
 R. James
 PATENT ASSIGNEE(S): Battery Technologies Inc., Can.
 SOURCE: PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 9900861	A1	19990107	WO 1998-CA627	199806 26
W:				
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,				
DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP,				
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,				
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,				
TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG,				
KZ, MD, RU, TJ, TM				
RW:				
GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,				
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,				
CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9880979	A	19990119	AU 1998-80979	199806 26
US 6361899	B1	20020326	US 1999-473770	199912 27
PRIORITY APPLN. INFO.:			GB 1997-13683	A 199706 27
			WO 1998-CA627	W 199806 26

AB The **additives** used in battery cathodes consist of Ba and/or Sr compds., and Ti,
 La, Y, Ce, Zn, Ca, Sn and/or Mg compds.
 IT 1304-28-5, **Barium oxide**, uses
 7727-43-7, **Barium sulfate**
 17194-00-2, **Barium hydroxide**
 RL: MOA (Modifier or additive use); USES (Uses)
 (additives for secondary alkaline **manganese**
dioxide battery **cathodes**)
 RN 1304-28-5 HCAPLUS
 CN Barium oxide (BaO) (CA INDEX NAME)

Ba=O

RN 7727-43-7 HCAPLUS
 CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)



● Ba

RN 17194-00-2 HCAPLUS
 CN Barium hydroxide (Ba(OH)2) (9CI) (CA INDEX NAME)

HO—Ba—OH

IC ICM H01M004-50
 ICS H01M010-24
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST **manganese dioxide** battery cathode
additive; barium compd **additive manganese dioxide** cathode; strontium compd **additive manganese dioxide** cathode; titanium compd **additive manganese dioxide** cathode; lanthanum compd **additive manganese dioxide** cathode; yttrium compd **additive manganese dioxide** cathode; cerium compd **additive manganese dioxide** cathode; zinc compd **additive manganese dioxide** cathode; calcium compd **additive manganese dioxide** cathode; tin compd **additive manganese dioxide** cathode; magnesium compd **additive manganese dioxide** cathode
 IT Battery cathodes
 (additives for secondary alkaline **manganese dioxide**)
 IT 1304-28-5, Barium oxide, uses
 1305-78-8, Calcia, uses 1306-38-3, Cerium oxide (CeO2), uses
 1309-48-4, Magnesia, uses 1312-81-8, Lanthanum oxide (La2O3)
 1314-13-2, Zinc oxide, uses 7440-24-6D, Strontium, compds., uses
 7440-65-5D, Yttrium, compds., uses 7727-43-7,
 Barium sulfate 7787-35-1, Barium
 manganese oxide (BaMnO4) 13463-67-7, Titania,
 uses 17194-00-2, Barium hydroxide
 18282-10-5, Tin dioxide
 RL: MOA (Modifier or additive use); USES (Uses)
 (additives for secondary alkaline **manganese dioxide** battery cathodes)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN

THE RE FORMAT

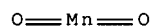
L54 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1997:467571 HCAPLUS Full-text
 DOCUMENT NUMBER: 127:83883
 TITLE: Nonaqueous electrolyte batteries with lithium
 containing **manganese oxide**
 cathodes
 INVENTOR(S): Uehara, Mayumi; Yamazaki, Mikiya; Yanai,
 Atsushi; Noma, Toshiyuki; Nishio, Koji
 PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 09139211	A	19970527	JP 1995-296818	199511 15
PRIORITY APPLN. INFO.:			JP 1995-296818	199511 15

AB The batteries use cathodes composed of heat treated Li compound and **additive** containing **MnO₂**, where the Li compound is selected from LiOH, Li₂CO₃, and LiNO₃ and is added at a Li/Mn mol ratio (1-30):(70-99); the **additive** is ≥1 of hydroxides, carbonates, and nitrates of element M selected Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Fe, Al, B, Si, P, Ga, Ge, As, Se, In, Sn, Sb, Te, Pb, Po, and At at a M/Li mol ratio (10-40):(60-90). The heat treatment is carried out at 270-380°. These batteries have high capacity.

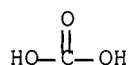
IT 1313-13-9, **Manganese dioxide**, uses
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (lithium compound and **additive** containing heat treated **manganese dioxide** for cathodes in lithium batteries)

RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO₂) (CA INDEX NAME)



IT 513-77-9, **Barium carbonate**
 17194-00-2, **Barium hydroxide**
 RL: MOA (Modifier or additive use); USES (Uses)
 (lithium compound and **additive** containing heat treated **manganese dioxide** for cathodes in lithium batteries)

RN 513-77-9 HCAPLUS
 CN Carbonic acid, barium salt (1:1) (CA INDEX NAME)



● Ba

RN 17194-00-2 HCAPLUS
CN Barium hydroxide (Ba(OH)2) (9CI) (CA INDEX NAME)

HO—Ba—OH

IC ICM H01M004-58
ICS H01M004-06; H01M004-08; H01M006-16
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery cathode lithium **manganese oxide**
additive; heat treatment lithium **manganese**
oxide cathode
IT Battery cathodes
(lithium compound and **additive** containing heat treated
manganese dioxide for cathodes in lithium
batteries)
IT 1313-13-9, **Manganese dioxide**, uses
RL: DEV (Device component use); PEP (Physical, engineering or
chemical process); PROC (Process); USES (Uses)
(lithium compound and **additive** containing heat treated
manganese dioxide for cathodes in lithium
batteries)
IT 463-79-6D, Carbonic acid, arssenic salt, uses 463-79-6D, Carbonic
acid, astatine salt, uses 463-79-6D, Carbonic acid, boron salts,
uses 463-79-6D, Carbonic acid, phosphorus salt, uses 463-79-6D,
Carbonic acid, polonium salt, uses 463-79-6D, Carbonic acid,
selenium salt, uses 463-79-6D, Carbonic acid, silicon salt, uses
463-79-6D, Carbonic acid, tellurium salt, uses 471-34-1, Calcium
carbonate, uses 497-19-8, Sodium carbonate, uses 513-77-9
, **Barium carbonate** 534-17-8, Cesium carbonate
546-93-0, Magnesium carbonate 554-13-2, Lithium carbonate
584-08-7, Potassium carbonate 584-09-8, Rubidium carbonate
598-63-0, Lead carbonate 1305-62-0, Calcium hydroxide, uses
1309-42-8, Magnesium hydroxide 1310-58-3, Potassium hydroxide,
uses 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide,
uses 1310-82-3, Rubidium hydroxide 1343-98-2, Silicon hydroxide
1633-05-2, Strontium carbonate 7116-98-5, Radium carbonate
7631-99-4, Sodium nitrate, uses 7697-37-2D, Nitric acid, astatine
salt, uses 7697-37-2D, Nitric acid, boron salt, uses 7697-37-2D,
Nitric acid, germanium salt, uses 7697-37-2D, Nitric acid,
phosphorus salt, uses 7697-37-2D, Nitric acid, selenium salt, uses
7697-37-2D, Nitric acid, silicon salt, uses 7757-79-1, Potassium
nitrate, uses 7789-18-6, Cesium nitrate 7790-69-4, Lithium
nitrate 10022-31-8, Barium nitrate 10042-76-9, Strontium nitrate
10043-35-3, Boric acid (H3BO3), uses 10099-74-8, Lead nitrate
10124-37-5, Calcium nitrate 10213-12-4, Radium nitrate [Ra(NO3)2]
10290-71-8, Iron carbonate 10377-60-3, Magnesium nitrate
11113-66-9, Iron hydroxide 12023-95-9, Francium hydroxide
12023-99-3, Gallium hydroxide 12027-17-7, Polonium hydroxide

[Po(OH)₄] 13106-47-3, Beryllium carbonate 13126-12-0, Rubidium nitrate 13327-32-7, Beryllium hydroxide 13464-58-9, Arsenous acid 13473-90-0, Aluminum nitrate 13494-90-1, Gallium nitrate 13597-99-4, Beryllium nitrate 13598-36-2, Phosphonic acid 13770-61-1, Indium nitrate 14104-77-9, Iron nitrate 14455-29-9, Aluminum carbonate 15021-18-8, Germanium hydroxide [Ge(OH)₄] 17194-00-2, Barium hydroxide 18480-07-4, Strontium hydroxide 19783-14-3, Lead hydroxide 20328-96-5, Antimony nitrate 20661-21-6, Indium hydroxide 21351-79-1, Cesium hydroxide 21645-51-2, Aluminum hydroxide, uses 39311-68-7, Tin hydroxide 41480-79-9, Tin nitrate 53216-05-0 60300-69-8, Selenium hydroxide [Se(OH)₂] 60459-04-3, Indium carbonate 62362-19-0, Tellurium hydroxide 64535-94-0, Tellurium nitrate 85184-26-5, Francium nitrate 90031-84-8, Francium carbonate 91094-39-2, Arsenic nitrate 95925-37-4, Antimony carbonate [Sb₂(CO₃)₃] 98966-86-0, Radium hydroxide [Ra(OH)₂] 126331-89-3, Hypoastatous acid 127795-35-1 142712-19-4, Carbonic acid, gallium salt 150815-34-2, Carbonic acid, tin salt 152761-81-4, Antimony hydroxide

RL: MOA (Modifier or additive use); USES (Uses)
 (lithium compound and **additive** containing heat treated **manganese dioxide** for cathodes in lithium batteries)

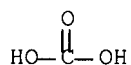
L54 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1995:795672 HCAPLUS Full-text
 DOCUMENT NUMBER: 123:175031
 TITLE: Secondary batteries with spinel-structured lithium **manganese oxide** cathodes
 INVENTOR(S): Nagaura, Tooru
 PATENT ASSIGNEE(S): Haibaru Jugen, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 07169457	A	19950704	JP 1993-353059	19931217
PRIORITY APPLN. INFO.: JP 1993-353059				19931217

AB The cathode active materials contain ≥1 alkaline earth carbonates. The batteries show long life cycles.

IT 513-77-9, Barium carbonate
 RL: MOA (Modifier or additive use); USES (Uses)
 (alkaline earth carbonate **additives** for lithium **manganese oxide** cathodes for batteries)

RN 513-77-9 HCAPLUS
 CN Carbonic acid, barium salt (1:1) (CA INDEX NAME)



● Ba

IC ICM H01M004-02
ICS H01M004-58; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium **manganese oxide** battery cathode; alk
earth carbonate battery cathode
IT Alkaline earth compounds
RL: MOA (Modifier or additive use); USES (Uses)
(carbonates; alkaline earth carbonate **additives** for lithium
manganese oxide cathodes for batteries)
IT Cathodes
(battery, alkaline earth carbonate **additives** for lithium
manganese oxide cathodes for batteries)
IT 513-77-9, Barium carbonate 546-93-0,
Magnesium carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(alkaline earth carbonate **additives** for lithium
manganese oxide cathodes for
batteries)
IT 12057-17-9, Lithium **manganese oxide** (limn2o4)
RL: DEV (Device component use); USES (Uses)
(spinel-structured; alkaline earth carbonate **additives** for
lithium **manganese oxide** cathodes for
batteries)

L54 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:773214 HCAPLUS Full-text
DOCUMENT NUMBER: 123:174998
TITLE: Cathodes for secondary batteries
INVENTOR(S): Nagaura, Tooru
PATENT ASSIGNEE(S): Haibaru Jugen, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 07153496	A	19950616	JP 1993-340305	199311 26
JP 3368029	B2	20030120		
PRIORITY APPLN. INFO.:			JP 1993-340305	199311 26

AB The **cathodes** comprise Li-containing mixed oxides (e.g., LiMn2O4) containing **BaO**,
MgO, and/or CaO. The batteries have high capacity and long life.
IT 1304-28-5, Barium oxide, uses
RL: MOA (Modifier or additive use); USES (Uses)

(battery **cathodes** of lithium mixed oxides containing)

RN 1304-28-5 HCAPLUS

CN Barium oxide (BaO) (CA INDEX NAME)

Ba==O

IC ICM H01M010-40

ICS H01M004-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST battery cathode lithium **manganese oxide**; barium
lithium oxide cathode battery; magnesia lithium oxide cathode
battery; calcia lithium oxide cathode battery

IT **Cathodes**

(battery, lithium mixed oxides containing **barium
oxide** and/or magnesium oxide and/or calcium oxide)

IT 1304-28-5, **Barium oxide**, uses

1305-78-8, **Calcium oxide**, uses 1309-48-4, **Magnesia**, uses

RL: **MOA (Modifier or additive use)**; **USES (Uses)**

(battery **cathodes** of lithium mixed oxides containing)

IT 12057-17-9, Lithium **manganese oxide** (LiMn2O4)

RL: **DEV (Device component use)**; **USES (Uses)**

(oxides-containing battery cathodes)

L54 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:687254 HCAPLUS Full-text

DOCUMENT NUMBER: 123:149003

TITLE: Slurries for manufacture of oxygen cathode
material for solid-electrolyte fuel cells

INVENTOR(S): Okuyama, Ryoichi; Nomura, Eiichi

PATENT ASSIGNEE(S): Yuasa Battery Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 07114926	A	19950502	JP 1993-286084	199310 19
JP 3417495	B2	20030616		
PRIORITY APPLN. INFO.:			JP 1993-286084	199310 19

AB The slurries are composed of multiple oxides of rare earth metals and alkaline earth metals and contain **additives** which react with the rare earth metal ions and the alkaline earth metal ions to form insol. **salts**. Preferably, the **additives** are ammonium oxalate or ammonium carbonate, and the multiple oxides is (La_{1-x}A_x)_yMnO₃ (A = Ca, Sr, Ba; x = 0-0.9; yr = 0.85-1), or (La_{1-x}A_x)_yCrO₃. The slurries have good moldability and **cathodes** prepared from the slurries have high strength.

IC ICM H01M004-88

ICS H01M004-86

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 139737-59-0, Lanthanum manganese strontium oxide (La_{0.72}MnSr_{0.18}O₃)
 167211-17-8, Calcium lanthanum **manganese oxide**
 (CaO-0.9La_{0.08}-1MnO₃) 167211-18-9, Lanthanum manganese strontium
 oxide (La_{0.08}-1MnSr_{0.90}O₃) 167211-19-0, Barium lanthanum
manganese oxide (BaO-0.9La_{0.08}-1MnO₃)
 167211-20-3, Calcium chromium lanthanum oxide (CaO-0.9CrLa_{0.08}-1O₃)
 167211-21-4, Chromium lanthanum strontium oxide (CrLa_{0.08}-1SrO-
 0.9O₃) 167211-22-5, Barium chromium lanthanum oxide
 (BaO-0.9CrLa_{0.08}-1O₃) 167211-23-6 167211-35-0
 RL: DEV (Device component use); PEP (Physical, engineering or
 chemical process); PROC (Process); USES (Uses)
 (slurries for manufacture of oxygen cathode material for
 solid-electrolyte fuel cells)

L54 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:357571 HCAPLUS Full-text

DOCUMENT NUMBER: 122:138079

TITLE: Development of a nickel/metal hydride battery
 (Ni/MH) system for EV application

AUTHOR(S): Ikoma, Munehisa; Hamada, Shinji; Morishita,
 Nobuyasu; Hoshina, Yasuko; Matsuda, Hiromu;
 Ohta, Kazuhiro; Kimura, Tadao

CORPORATE SOURCE: EV Battery Development Cent., Matsushita Battery
 Ind. Co., Ltd., Osaka, 570, Japan

SOURCE: Proceedings - Electrochemical Society (1994),
 94-27(Hydrogen and Metal Hydride Batteries),
 370-80

CODEN: PESODO; ISSN: 0161-6374

PUBLISHER: Electrochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In order to satisfy basic battery characteristics for elec. vehicles (EV) such as
 specific energy, specific power and cycle life that are required for driving on
 urban streets, we have selected valve-regulated lead acid battery as a
 conventional battery and nickel/metal-hydride battery as an advanced battery, and
 have been studying on these development in order to put into practical use by
 1998. Regarding to nickel/metal-hydride battery, excellent nickel pos. electrode
 with high temperature charge efficiency accomplished with **additive**, such as Ca
 compound, and exceedingly good hydrogen absorbing alloy neg. electrode with high
 capacity and long cycle life, achieved by adjustment of alloy composition, surface
 treatment, and control of binder and conductive **additive** have been developed to
 overcome difficulties in scale up of battery size. Module battery using these
 technologies possessed specific energy twice (70 Wh/kg) as lead acid battery, and
 has superior specific power (160 Wh/kg) and long cycle life.

IT 1304-28-5, Barium oxide, uses

1313-13-9, Manganese dioxide, uses

RL: MOA (Modifier or **additive use**); USES (Uses)

(**cathode additive**; development of a
 nickel/metal hydride battery system for elec. vehicle
 application)

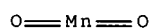
RN 1304-28-5 HCAPLUS

CN Barium oxide (BaO) (CA INDEX NAME)

Ba==O

RN 1313-13-9 HCAPLUS

CN Manganese oxide (MnO₂) (CA INDEX NAME)



CC. 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 56
 IT 1304-28-5, Barium oxide, uses
 1305-62-0, Calcium hydroxide, uses 1306-19-0, Cadmium oxide, uses
 1308-38-9, Chromic oxide, uses 1309-37-1, Ferric oxide, uses
 1309-42-8, Magnesium hydroxide 1309-64-4, Antimony trioxide, uses
 1312-43-2, Indium oxide in₂O₃ 1312-81-8, Lanthanum oxide La₂O₃
 1313-13-9, Manganese dioxide, uses
 1314-13-2, Zinc oxide, uses 1314-36-9, Yttria, uses 1314-62-1,
 Vanadium pentoxide, uses 1317-39-1, Cuprous oxide, uses
 7789-75-5, Calcium fluoride, uses 13463-67-7, Titania, uses
 18282-10-5, Tin dioxide 18480-07-4, Strontium hydroxide
 20548-54-3, Calcium sulfide 20667-12-3, Silver oxide Ag₂O
 RL: MOA (Modifier or additive use); USES (Uses)
 (cathode additive; development of a
 nickel/metal hydride battery system for elec. vehicle
 application)

L54 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:564048 HCAPLUS Full-text

DOCUMENT NUMBER: 119:164048

TITLE: Cathodes for primary or secondary dioxide
 batteries with barium compound **additive**

INVENTOR(S): Taucher, Waltraud; Kordes, Karl; Daniel-Ivad,
 Josef

PATENT ASSIGNEE(S): Battery Technologies Inc., Can.

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9312551	A1	19930624	WO 1992-CA553	19921221
W: AU, BB, BG, BR, CA, CS, FI, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
HU 67934	A2	19950529	HU 1991-4047	19911219
HU 215866	B	19990329		
CA 2126069	A1	19930624	CA 1992-2126069	19921221
CA 2126069	C	20060606		
AU 9331545	A	19930719	AU 1993-31545	19921221

AU 673338	B2	19961107		
EP 617845	A1	19941005	EP 1993-900059	199212 21
EP 617845	B1	19960207		
R: BE, CH, DE, ES, FR, GB, IT, LI				
JP 07502145	T	19950302	JP 1992-510483	199212 21
ES 2085761	T3	19960601	ES 1993-900059	199212 21
RU 2096867	C1	19971120	RU 1994-30500	199212 21
PRIORITY APPLN. INFO.:			HU 1991-4047	A 199112 19
			WO 1992-CA553	W 199212 21

AB The **cathodes** comprise **MnO₂**, a conductive powder, and .apprx. 3-25 weight% **additive** selected from Ba(OH)₂, **BaO**, and BaSO₄. Ba(OH)₂ may include 8 mols. of H₂O of crystallization The **cathode** components are uniformly mixed and pressed to form a porous body filled with the electrolyte.

IT 1304-28-5, **Barium oxide**, uses
7727-43-7, **Barium sulfate**
17194-00-2, **Barium hydroxide**
RL: USES (Uses)
(**cathodes** containing, **manganese dioxide**
, for high-capacity batteries)

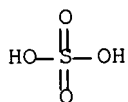
RN 1304-28-5 HCAPLUS

CN Barium oxide (BaO) (CA INDEX NAME)



RN 7727-43-7 HCAPLUS

CN Sulfuric acid, barium salt (1:1) (CA INDEX NAME)

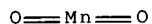


RN 17194-00-2 HCAPLUS

CN Barium hydroxide (Ba(OH)₂) (9CI) (CA INDEX NAME)

HO—Ba—OH

IT 1313-13-9, Manganese dioxide, uses
 RL: USES (Uses)
 (cathodes, containing barium compound **additive**, for
 high-capacity batteries)
 RN 1313-13-9 HCAPLUS
 CN Manganese oxide (MnO₂) (CA INDEX NAME)



IC ICM H01M004-50
 ICS H01M004-62; H01M006-04
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST battery manganese dioxide cathode
 additive; barium hydroxide
 manganese dioxide cathode;
 barium oxide manganese dioxide
 cathode; barium sulfate
 manganese dioxide cathode
 IT Cathodes
 (battery, manganese dioxide, containing barium
 compound **additive**)
 IT 1304-28-5, Barium oxide, uses
 7727-43-7, Barium sulfate
 17194-00-2, Barium hydroxide
 RL: USES (Uses)
 (cathodes containing, manganese dioxide
 , for high-capacity batteries)
 IT 1313-13-9, Manganese dioxide, uses
 RL: USES (Uses)
 (cathodes, containing barium compound **additive**, for
 high-capacity batteries)

L54 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1982:549540 HCAPLUS Full-text
 DOCUMENT NUMBER: 97:149540
 TITLE: Phosphorus pentoxide-vanadium pentoxide-lead
 monoxide glass which reduces arcing in the
 funnel portion of a CRT
 INVENTOR(S): Weaver, Edward A.
 PATENT ASSIGNEE(S): Owens-Illinois, Inc. , USA
 SOURCE: U.S., 6 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 4342943	A	19820803	US 1979-85822	197910
				17

PRIORITY APPLN. INFO.:

US 1979-85822

197910

17

AB Elec. resistant glass film coatings on the neck or funnel part of **cathode** ray tubes (CRT) which decrease arcing are described. The glass film, containing V2O5 50-75, P2O5 15-40, ZnO and/or PbO 5-20 weight% and 0-15 weight% **additives** of BaO, Sb2O3, Li2O, **Mn oxide**, SiO2, B2O3, and MoO3 has softening pt. $\leq 475^\circ$, elec. resistance 0.1-100 M Ω /square, and flow ratio 3 and is substantially water-soluble. Thus, a glass fiber film composition containing V2O5 73, ZnO 5, P2O5 19, SiO2 1, and B2O3 2 weight% has elec. resistance 10.0 M Ω /square and is vitreous.

IT 1304-28-5, uses and miscellaneous
RL: USES (Uses)
(glass films, vanadium phosphate, on **cathode** ray tubes, for arcing inhibition)

RN 1304-28-5 HCAPLUS
CN Barium oxide (BaO) (CA INDEX NAME)

Ba=O

IC C03C003-10; H01J031-00; C03C003-16; H01B001-08

INCL 313479000

CC 57-1 (Ceramics)

Section cross-reference(s): 76

IT 1304-28-5, uses and miscellaneous 1309-64-4, uses and miscellaneous 1313-27-5, uses and miscellaneous 1314-13-2, uses and miscellaneous 1317-36-8, uses and miscellaneous 11129-60-5 12057-24-8, uses and miscellaneous

RL: USES (Uses)

(glass films, vanadium phosphate, on **cathode** ray tubes, for arcing inhibition)

L54 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1970:501680 HCAPLUS Full-text

DOCUMENT NUMBER: 73:101680

TITLE: Silicate glass for tube screen plates of cathode-ray tubes

INVENTOR(S): Sheldon, John L.

PATENT ASSIGNEE(S): Corning Glass Works

SOURCE: Ger., 5 pp.

CODEN: GWXXAW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
DE 1464518		19700723	DE	
PRIORITY APPLN. INFO.:			US	
				196209
				10
			US	
				196306

AB Brownish discoloration of **cathode** ray tube screen plates which occurs during use may be avoided without using costly **additives**, such as CeO₂, by addition of 0.01-0.2 weight % of MnO in conjunction with up to 0.5 weight % TiO₂. The amount of TiO₂ is never >3 times the weight of MnO and is adjusted so that the 4050 Å: 5460 Å wavelength relationship lies between 1:1 and 4:1. The glass has the formulation: SiO₂ 66, Al₂O₃ 4, **BaO** 12, PbO 2.5, K₂O 6, Na₂O 7, Li₂O 0.5, Rb₂O 0.4, F 1, and Sb₂O₃ and As₂O₃ 0.6%. Tables compare the results obtained (a) with varying amts. of MnO, (b) with varying amts. of MnO + TiO₂, (c) varying amts. of CeO₂ against controls of unmodified silica glass.

IC H01J

CC 57 (Ceramics)

IT Cathode-ray tubes

(glass for, containing **manganese oxide** and titanium oxide)

=>